

GREY CHALK.*

The grey chalk differs from the strata reposing on it, in being softer. It varies considerably in different places, in respect of colour and texture; being much more sandy and less compact than in others. A fair specimen of it yielded to my brother, by analysis, 82 per cent. of carbonate of lime, and 18 of silex and alumine, chiefly of the former, and a trace of the oxide of iron.

It first rises from the beach at the foot of the low cliff (see preceding sketch) contiguous on the west to that which is known by the name of Shakspeare's; but its separation from the chalk without flints is not at that place perfectly defined. In less than a quarter of a mile beyond the place at which it rises from the beach, the two strata are very distinct; the white being separated from the grey by some very thin beds of a sandy appearance and yellowish colour. As the grey chalk rises, its colour becomes deeper, and it is here and there so extremely soft, that the rain in descending the cliff, has carried down and deposited at its base considerable quantities. It is in these places particularly, that beds of sandstone from one to four or five inches thick, and extremely hard, take their course parallel with the stratum for a short distance, projecting beyond the face of the cliff from a few inches to two or three feet. A fan-shaped projection of this kind overhangs a copious stream of pure water issuing from the grey chalk, termed Lidden spout, protruding beyond the surface of the cliff, not less than five feet.

Not a flint is visible in this bed: its organic appearances are numerous, but do not differ considerably from those of the superior strata. Along the crevices running parallel with the stratification, the chalk is commonly of a deeper grey than the bed in general, and incloses some still darker appearances of ramification, resembling in their general form some varieties of broad-leaved fuci, which are somewhat softer than the chalk in which they are imbedded. The reverse of this is occasionally observable in the more solid parts of this chalk, and where its colour is of a lighter grey; for there it is sometimes traversed in every direction by very numerous and small ramifications of a colour still lighter. The remains of the echinus are numerous, and their shells are replaced by carbonate of lime

* This bed of grey chalk might more properly be designated chalk marle, and therefore its description ought strictly to be referred to the beds immediately beneath the chalk; for the convenience of the traveller however it is here inserted.